

# NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

## FACT SHEET

(pursuant to NAC 445A.236)

**Permittee Name:** City of Reno Public Works Department, Reno Stead Water Reclamation Facility, 4250 Norton Drive, Reno, NV 89506

**Permit Number:** NV0020168

**Location:** 4250 Norton Drive, Reno, Nevada  
Latitude: 39° 38' 44"N.; Longitude 119° 51' 54"W.  
Section 32, T.21N., R.19E. MDB&M

**Description of Discharge:** The Reno Stead facility treats wastewater primarily from residential properties, along with some commercial and light industrial properties within the service area. The treatment processes consist of a headworks where influent undergoes screening with mechanical step screens, flow measurement via a Parshall Flume, and a grit removal system; odors are controlled via a biofilter. The effluent then is piped from the headworks to a splitter box where it is directed to either the oxidation ditch (activated sludge process) for treatment, or to one of two aeration/reactor basins which are operated to have anoxic and aerobic zones which provide nitrification and denitrification (biological nutrient removal process); aeration in the reactor basins is via a fine bubble diffuser system. When the plant is expanded to 4.0 MGD two more basins will be added to the system. An emergency line from the headworks also connects into the existing oxidation ditch to manage any excess flows and/or to contain any spills. Effluent is pumped from the aeration basins and the oxidation ditch into a secondary clarifier (with expansion a second clarifier will be added), and from there to the tertiary media filters for filtration prior to delivery to the chlorine contact basins for chlorination. Effluent which is directed to the Swan Lake/Lemmon Lake for discharge has flow measurement and is dechlorinated; effluent for irrigation reuse applications is not dechlorinated. The several plant upgrades provide treated effluent with an exceptional quality (2.2 Total Coliform CFU or MPN/100 ml - Category A NAC.445A.276 - and Total Nitrogen 10 mg/l or less) for irrigation reuse sites and other discharges. Waste activated sludge collected from the clarifiers is pumped via pipeline to the Reno-Sparks Water Reclamation Facility for treatment and disposal.

**Receiving Water Characteristics:** Upon issuance of this permit, discharge from this facility is authorized for new future reuse outfalls subject to Division approval and permitting of each new site. Surface discharge (Outfall 001) is to Lemmon Lake/Swan Lake, (hereinafter Lemmon Lake) to support wildlife habitat, and is via an unnamed ditch which also receives seasonal runoff and stormwater from Horse Creek/Swan Creek. An agreement with the Bureau of Land Management requires that the RSWRF deliver a minimum of 490 acre feet a year of effluent to the playa to help maintain the wildlife habitat. Lemmon Lake is a playa (isolated water/closed basin) which contains water during wet climactic cycles. Facility outfalls for discharge and reuse sites listed in the permit include:

- Outfall 001: Lemmon Lake via an unnamed ditch;
- Outfall 002: Mayor's Park irrigation reuse and effluent storage(Site is under the responsible control of the RSWRF/City of Reno)
- Outfall 003: Sierra Sage Golf Course irrigation reuse (Permit #NEV99010);
- Outfall 004: North Valley Regional Sports Complex irrigation reuse (Permit #NEV99011);
- Outfall 005: On-site landscape irrigation (responsibility of RSWRF);
- Outfall 006: On-site effluent truck fill station for construction water (responsibility of RSWRF);
- Outfall 007: Future J.C. Penney irrigation reuse (to be permitted);
- Outfall 008: Future R.R. Donnley irrigation reuse (to be permitted); and
- Outfall 009: Other future reuse sites as approved and permitted.

**Flow:** Phase I - Flow is limited to 2.0 MGD, 30-day average; and 2.35 MGD, daily maximum. Phase II - Flow is limited to 4.0 MGD, 30-day average; and 4.35 MGD, daily maximum. Flow to each reuse site must also be documented quarterly.

**Procedures for Public Comment:** The Notice of the Division's intent to renew a permit authorizing the facility to discharge to Lemmon Lake and groundwaters of the State of Nevada subject to the conditions contained within the permit, will be published in the **Reno Gazette-Journal**. The notice will also be mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing for a period of 30 days following the date of publication of the public notice, by January 6, 2006. The comment period may be extended at the discretion of the Administrator.

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator or any interested agency, person or group of persons. The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted. Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

**Proposed Effluent Limitations: TABLE I.1: Effluent Limitations**

<b><u>PARAMETERS</u></b>	<b><u>EFFLUENT DISCHARGE LIMITATIONS</u></b>		<b><u>MONITORING REQUIREMENTS</u></b>		
	30-Day Average	Daily Maximum	Sample Locations	Measurement Frequency	Sample Type
Flow: - Total Phase I Total Phase II	2.0 MGD 4.0 MGD	2.35 MGD 4.35 MGD	Influent Influent	Continuous Continuous	Flow Meter Flow Meter
Flow: - Report for Each Outfall	M & R	N/A	Outfalls 001 - 009	Monthly	Flow Meter
BOD <sub>5</sub> :	M&R	M&R	Influent	Weekly	Composite
	25 mg/l	40 mg/l	Effluent	Weekly	Composite
BOD <sub>5</sub> :	≥85% Removal	N/A	Effluent	Weekly	Calculate
Total Suspended Solids:	M&R	M&R	Influent	Weekly	Composite
	30 mg/l	45 mg/l	Effluent	Weekly	Composite
Total Suspended Solids:	≥85% Removal	N/A	Effluent	Weekly	Calculate
pH:	6.0 - 9.0 S.U. Between		Effluent	Weekly	Discrete

<b><u>PARAMETERS</u></b>	<b><u>EFFLUENT DISCHARGE LIMITATIONS</u></b>		<b><u>MONITORING REQUIREMENTS</u></b>		
	<b>30-Day Average</b>	<b>Daily Maximum</b>	<b>Sample Locations</b>	<b>Measurement Frequency</b>	<b>Sample Type</b>
Fecal Coliform	200 cfu or mpn/100 ml	400 cfu or mpn/100 ml <sup>(1)</sup>	Outfall 001	Weekly <sup>(2)</sup>	Discrete
Total Coliform:	2.2 cfu or mpn/100 ml	23 cfu or mpn/100 ml <sup>(1)</sup>	Effluent to 002 - 009	Weekly <sup>(2)</sup>	Discrete
Total Residual Chlorine:	M & R	0.1 mg/L	Outfall 001	Weekly <sup>(2)</sup>	Discrete
Total Nitrogen as N:	10.0 mg/L	M&R	Effluent to 002 - 009	Monthly <sup>(2)</sup>	Calculate
Priority Pollutants	Monitor & Report (See Part I.C.1.d.i. in Permit)		Influent & Effluent	Annually in July	Discrete
Annual Application Volume: (AF)	20 Acre Feet/Year* (X 0.326 = Million Gallons)		Mayor's Park	Cummulative annual Total	Calculate

N/A = Not Applicable M & R = monitor and report MGD = million gallons per day mg/L = milligrams per liter S.U. = standard units AF = acre feet mpn = most probable number cfu = colony forming units

- (1) No more than 10% of the total number of coliform samples taken during any 30-day period may exceed the limits listed.  
(2) Monitoring of Coliform organisms, residual chlorine and nitrogen species are required only when discharging to the listed outfalls. If there is no discharge to a listed outfall during a reporting period, state "No Discharge" on the DMR.

\* Based upon 110 % of the application volume determined from the consumptive use balance in the EMP. Submit data with the 4<sup>th</sup> Quarter Report.

**Schedule of Compliance and Special Conditions** The Permittee shall implement and comply with the provisions of the Schedule of Compliance after approval by the Administrator, including in said implementation and compliance, any additions or modifications which the Administrator may make in approving the schedule of compliance.

- The Permittee shall achieve compliance with the effluent limitations upon issuance of the permit;
- The Permittee shall submit a report in accordance with permit condition I.D.2.d. within 14 days of a compliance date detailing compliance or noncompliance with that date;
- All revisions to the Operations and Maintenance Manual shall be submitted to the Division for review and approval within 90 days of permit issuance; an Effluent Management Plan for onsite reuse, and a copy of the approved EMPs for the truck fill station and Mayor's Park shall be included as an Appendix to the revised O & M to be maintained onsite.
- Discharge to new reuse outfalls is contingent upon Division approvals and permits being obtained for the new reuse site(s) by the entity in responsible charge for that site.
- Notify the Division when Phase II will be instituted, and provide Technical Services with As Built Plans for the Phase II construction.

**Rationale for Permit Requirements:** Monitoring is required to assess the level of treatment being provided and to determine when design capacity is being approached.

Most of the effluent discharged to Lemmon Lake and reused for irrigation will be disposed of via evaporation/transpiration/percolation. Lemmon Lake playa is commonly dry; however, during wet climatic cycles it contains water and supports wildlife habitat. The ditch which receives the effluent and receiving playa, Lemmon Lake is not a listed or Class water and does not have any beneficial uses assigned.

The limitations for discharge to Lemmon Lake (Outfall 001) are secondary treatment standards which are the minimum permitted for a surface water discharge. Limitations also include Total Residual Chlorine to protect any indigenous aquatic life. Based upon review of Priority Pollutant monitoring data submitted to NDEP from the past permit period, which showed non-detects or below MCLs on all parameters, there is no reasonable potential for the effluent to cause or contribute to an exceedance of water quality standards. A Priority Pollutant scan will continue to be required annually to assess the treatment of influent from the limited commercial and industrial inputs.

The limitations and monitoring requirements for discharge to Outfalls 002 through 009 are required to assess the effluent for the Total Coliform limitation being supplied to the reuse sites by the treatment plant.

The permit conditions pertaining to the Pretreatment Program are included in the permit.

**Compliance:** In the past there have been incidences regarding the timeliness of DMR submittals and proper testing and sampling, but in the past two to three years these issues have been corrected. The Reno-Stead Water Reclamation facility produces high quality effluent over all, and aside from a few rare equipment mechanical problems or operational/maintenance activities (e.g. in 2004 the fecal coliform spiked at 799/100 ml for one day, after cleaning the chlorine contact basin, but was returned to the 2.2/100 ml fecal coliform the next day) there have been very few to no permit exceedances.

**Proposed Determination:** The Division has made the determination to re-issue the proposed permit for a five-year period.

Prepared by: Icyl C. Mulligan, MS, ES  
August, 2005 (Draft)  
November, 2005 (revised draft)